

Dr. Carte's compressing apparatus. The patient was informed of the nature of his disease; of the alternative that awaited him if the plan of compression failed; the mode of managing this was explained to him, and he was exhorted to maintain the compression for six or seven hours, or longer if he could. He was very anxious to avoid an operation, and readily undertook the treatment. The next day, January 4th, the pulsation in the tumour had ceased. He reported that he kept up the compression seven hours and a half in succession, and that, during the whole time of its application, no pulsation returned to the tumour, nor did it after the removal of the instrument. The temperature of the leg and foot did not appear to differ sensibly from that of the sound limb, but the thermometer was not applied. It was difficult to feel pulsation distinctly in the tibial arteries of the right leg, and impossible to do so in the left. Perfect rest and moderate diet were enjoined. After a week, some obscure pulsation was perceived, not dilating the tumour, but as if the popliteal artery was pervious along its base. Dr. Carte's instrument was, therefore, again applied for three hours, after which this pulsation was no longer to be felt. Two arteries were traced along the surface of the tumour; one about the size of the temporal, the other smaller. The case now progressed favorably, the tumour became very firm, and diminished in size. In less than four weeks from the commencement of the treatment, he returned to his employment in a butter crane, where he was engaged in lifting heavy weights. I have since seen him occasionally. The tumour, when last examined, was about the size of a nut, and of firm consistence. The pulse in the femoral artery could be felt along its course to within two inches of the tumour. He was free from all uneasiness in the leg, and in fact was completely cured.

*Remarks.*—Dr. Carte's application of an elastic force in the compression of arteries promises in a great measure materially to lessen the pain attending it, and thus to remove the only plausible objection to this mode of treating aneurisms becoming a rule of surgical practice. In the first case related, the patient was very sensitive to pain, and had not fortitude to endure the screw-clamp for the requisite period; while he was able to sustain the elastic force for six hours without shifting the instrument from the artery, and this period proved sufficient for his ultimate cure. In the second case, the compression was maintained during seven hours and a half without relaxation, which I am persuaded could not have been borne with the screw clamp.

## OPHTHALMOLOGY.

40. *On Inflammation of the Eye from Injury.* By Dr. JACOB.—[We commend to the attention of our readers the following important practical remarks on inflammation of the eye from injury, read to the Surgical Society of Ireland by one of the soundest and most judicious ophthalmic surgeons of our day, Prof. Jacob, of Dublin.]

"Practitioners appear to think that all injuries of the eye are to be similarly treated, and that nothing more is necessary than to proportion the treatment to the amount of injury: they seem to assume that in all cases depletion, purgatives, denial of food, antimonials, mercury, and other usual remedies, are to be adopted, and that all they have to do is to consider the amount or extent to which they should be carried. This is a great mistake, for the destructive processes of inflammation are in many cases greatly disproportioned to the injury sustained: a scratch or puncture of the cornea will often cause destruction of the entire eye, while an extensive wound, even with laceration and contusion, will sometimes be repaired without extension of the consequent inflammation to the parts untouched. So far from considering inflammation of the eye, when caused by injury, to be of more simple, uncomplicated, or uniform character, I look upon it to be the inflammation which affords most frequently examples of peculiar modification or specific peculiarity. It will be intense in its nature, and rapid in its effects, or languid in its action, and slow or chronic in its progress: or it will assume the rheumatic, neuralgic, or scrofulous character; and

even when latent syphilis is present in the system, it may be influenced by that poisonous influence. This may appear to some an assumption unsustained by facts, but of its truth I entertain no doubts: I have too often seen these modifications of inflammation following accidental injuries and operations, to be at all undecided on the subject. Even what may be considered the extreme case amongst them, the syphilitic species, I am convinced, sometimes occurs; because I have so often seen true syphilitic iritis attributed by patients to slight accidents, and I believe on just grounds, that I cannot but admit the possibility at least, of such combination. Indeed, the question may be fairly mooted, whether syphilitic iritis may not be in all cases an inflammation from ordinary causes modified by the constitutional syphilitic diathesis, rather than a local concentration of the disease displaying its distinct and peculiar specific characters. This is, however, a speculation not to be dwelt upon here, and I have therefore to return to the subject more immediately under consideration, the nature, amount, and consequences of inflammation caused by injury. The first question to be determined in this inquiry may appear to some a novel one, and yet it is one which should be settled. Is inflammation a necessary and inevitable consequence of injury of the eye? That it follows from contused and lacerated wounds, or deeply penetrating punctures, must be admitted; but that it always follows simple incised wounds, remains to be proved. We are, I believe, indebted to the late Dr. Macartney for suggesting this question to surgeons with reference to injuries in general, in his work on Inflammation; and I am satisfied of the correctness of his views from observations of injuries of this organ. This inquiry, however, cannot be entertained here: it is sufficient for the present purpose, to assume that practitioners not only no longer consider some inflammation necessary for the reparation of injury, but that they consider it necessary to adopt every measure and precaution to prevent or arrest that process. Not only have they arrived at this conclusion, but in my opinion, they proceed under an exaggerated notion of its importance. They appear to think, as I have already said, that every wound of the eye, however slight, demands what is called active treatment, and that severer injuries require extraordinary measures. According to my experience, wounds of the eye are followed, either by no inflammation; by suppuration, if it is the cornea which is injured; by common or ordinary inflammation; or by a slow disorganizing species of inflammatory action, sometimes modified by rheumatism or serofula, or other constitutional disease.

"When the cornea is punctured, as it sometimes is, by a needle, the prong of a fork, an awl, or a thorn; or when it is cut by the point of a penknife, broken glass, or fragments of stone or metal, the surgeon has nothing to do in the way of manual operation; but if the wound be large, and especially if it be a lacerated one, and extending through the iris, or allowing that membrane to prolapse, he has then to adjust the divided edges with a blunt probe, or the instrument called a curette, and to replace the iris, if possible, by gently pressing it back. Having done this, he should consider what means he has at his disposal in the way of local application to prevent or allay inflammatory action. The eye is, I believe, in such cases generally bandaged up, with or without what is called, and perhaps appropriately, a "compress," wetted with some lotion. This is bad practice. The surgeon has two objects to attain by his dressing: to prevent mechanical irritation by friction of the lids, and to keep the parts cool by evaporation. To effect this, a single layer of soft old linen wetted with cold water, is all that is necessary; but if the patient be obliged to move about and to attend to business, it is not easy to make such an application without pressure. I use an oval piece of old linen sufficiently large to cover the parts from above the eyebrow to the cheek, secured with strings of tape, and direct the patient to keep it constantly wet, by squeezing a sponge or rag dipped in cold water over it. With working men, who are generally the subjects of such accidents, I am, however, often obliged to sacrifice the advantage to be derived from evaporation, in consequence of their being unable to keep the linen wet, and am compelled to rely on the mere interruption of motion of the lids, with the relaxation of surface secured by moisture. With this view, a scrap of oiled silk lined with old linen, and wetted when it becomes

dry, is substituted for the evaporating application. In greater injuries of the eye, more precautions must be adopted. When the cornea is extensively divided, with or without division or prolapse of the iris or injury of the lens, the local treatment must be the same as that employed after the extraction of a cataract: both eyes must be kept closed, to prevent the separation of the lips of the wound by the motion of the eyelids, while temperature is to be lessened, or its increase retarded by water-dressing. With this view, something in the shape of bandage must be employed, although, from the pressure it causes, it is generally to be avoided. I lay one layer of old linen, about three inches wide, across both eyes, and instead of securing it in its place, by passing it round the head or pinning it to a cap, by which unequal pressure is produced, I have it touched at the ends with a little adhesive plaster, and by this means cause it to adhere to the temples, and by similar means to the forehead, just above the nose. This layer of old linen I direct to be constantly wetted with cold water where it touches the eye. After the second day, I merely cause scraps of wet linen to be laid over the eye, and as they become dry during sleep at night, I allow them to fall off at that time. If there be danger of the iris becoming entangled in the wound, or during the subsequent healing adhering to it, a belladonna lotion should be substituted for plain water, and the lids and brow should be painted with the extract once in twenty-four hours. If severe inflammation comes on, indicated by intense redness of the sclerotic and discoloration of the iris; and in cases where the cornea has been injured, accompanied by suppuration, cold-water dressing, or mere interruption of the motions of the eyeball and lids, will not be sufficient. Such a state is attended by severe pain, and demands a trial at least of warm applications in the shape of stupes or even poultices. These will not always relieve pain, or reduce inflammatory action, but it must, I think, be admitted that they often have a soothing effect, and that their application is often followed by a diminution of the increased vascularity and reduction of any tumefaction which may have taken place. It is not easy to reconcile the theoretical explanations given of the effects of two such opposite agents as heat and cold, but it must be admitted that they are both found beneficial in the treatment of inflammation, and I have no doubt that they are useful in inflammation of the eye from injury or other cause.

"In severe wounds of the eye, the surgeon has at first to deal with the peculiar accidents which must be found where an organ of such complicated structure is the seat of injury; union of the divided edges is to be secured, and a prolapsed iris is, as I have already observed, to be reduced; while foreign bodies are to be removed, or even the lens itself, if displaced. Subsequently, the proximate effects or consequences of inflammation are to be encountered, such as abscess in the cornea, and, as I have already said, adhesions of the iris to the capsule of the lens. Foreign bodies should, if possible, be removed, but they may have been driven so deeply into the eye, or so entangled in the iris, that much manual and instrumental interference may be necessary. Small particles of iron, brass, stone, or other material sticking in the cornea, must be removed at once with the point of a needle; and I am convinced that no needle is better suited to the purpose than that which I used for operating on a cataract. Larger pieces may require the use of the forceps or curette for their removal, and it may be necessary to follow them into the interior of the eye, and even to enlarge the external wound. This must, however, be done with great caution, as the lens, if not already injured, may be wounded, or the iris may be cut or torn, and the vitreous humour forced out. There may also be more difficulty in removing such fragments than the operator may at first suppose, as they may be entangled in the folds of the iris, which becomes flaccid when the aqueous humour escapes, or they may be lodged in the lens or vitreous humour. If the crystalline lens has been wounded, and especially if it has been detached from its capsule, and thrown forward against the iris, or in front of it, it should, if possible, be removed, broken up, or depressed. It never should be allowed to remain in the anterior chamber, especially in aged persons, but should be extracted, depressed, or reclined, because it swells from imbibing the aqueous humour, or, if hard, remains undissolved for many months. These

operative means of relief must, however, be employed immediately after the infliction of the injury, as they can scarcely be resorted to after inflammation has set in.

"The local treatment of the proximate effects of inflammation following injury, sometimes is of considerable importance. Abscess of the cornea often follows slight punctures or scratches of that structure, as from foreign bodies, and the removal of them. The practice of opening such abscesses has been questioned, but in my opinion it is as necessary to give exit to matter in this situation, in order to prevent extension of the injury, as it is in other situations. Matter secreted into the chamber of the aqueous humour, if small in quantity, as where it constitutes hypopion, requires no opening for its escape: it will be absorbed sooner or later; but if it accumulates in such quantity as to fill the entire chamber and to cause distension, it should be discharged. Sometimes when it is formed in the cornea it is diffused in its texture, but more frequently it is lodged in a distinct cavity, and in this case, especially if large, it should be opened. This should be done with a keen extracting knife, and requires careful and delicate manipulation; a common lancet is a very awkward instrument for the purpose. The surgeon, however, must be prepared for consequences apparently caused by his interference. The parts become so much thinned by the suppuration, that an opening takes place into the anterior chamber, and the iris prolapses; but this is a consequence which does not cause loss of vision, unless the opening be very large, and the portion of the iris protruded very great: smaller prolapses of the iris are followed by irregular and eccentric pupil only. This prolapse should not be attributed to the opening of the abscess; that operation probably often prevents this mischief, if done in time, or, if it does not prevent it, renders it less destructive. It is usual to touch the little tumour formed by this prolapsed iris with nitrate of silver, to reduce its size, and to allay the painful sensibility of its surface. This I do not consider necessary, because, when small, it shrinks to a level with the cornea in healing, and, when large, it is better to allow it to become firmly adherent to the opening through which it has passed, and somewhat consolidated before interfering with it. After the inflammation has subsided, it may, before or after cicatrization, be punctured or even freely opened, should it create uneasiness or deformity from its size or prominence, which causes it to fall flaccid, and ultimately to contract; it is often, however, necessary to repeat the puncture several times before this object is accomplished.

"The general or constitutional treatment of inflammation of the eye from injury, is still more important than the local management. Destruction of the organ takes place either from the suppuration to which I have alluded, or from the inflammation extending to all its parts, and causing cataract or amaurosis, or both, with or without contracted and adherent pupil. The suppuration, with its consequent ulceration, affords a most instructive lesson to the surgeon, displaying, as it does, the influence of constitutional derangement on local inflammatory action. When slight injuries of the cornea are followed by this effect, it is obvious that it is not the amount or extent of the wound which causes the greater mischief, but some condition of the system which alters the ordinary operations of the animal economy. Destructive ulceration or abscess is, I think, uniformly accompanied by obvious derangement of the digestive, assimilating, and nutritive functions. The tongue is white, and often even brown, in the centre, while the stomach is uneasy, and disturbed by flatulence and acidity. The fecal discharges from the alimentary canal are seldom examined in such cases; but if attended to, will probably be found mixed with undigested food, and deficient in the colour which the bile imparts to them in a state of health; the urine also affords evidence of gastric disturbance by a deposition of urates or uric acid. In fact, both from these symptoms, and the aspect of the patient, as well as from the account given of his habits and dietetic irregularities, the surgeon appears fully justified in assuming that the local mischief is aggravated, if not caused, by the constitutional diathesis. Abscess of the cornea, or secretion of purulent matter into the chamber of the aqueous humour, whether from injury or irritable ulcer, I find almost uniformly takes place in aged persons, either of feeble frame, or of that turgid habit of body which indulg-

ence in the excesses of the table causes; and in younger subjects who lead irregular lives, and are subject to great vicissitudes of diet and weather. In children, the same consequence is observed in those badly fed, insufficiently clothed, and confined to impure atmosphere; whether in the nurseries of the gentry, or the close rooms and cottages of the poor. Keeping all this in view, the practitioner should, in my opinion, direct his attention in these cases where suppuration follows slight injury, to this state of the assimilating organs, rather than rely on depletion and mercury. I do not mean to advise that he should not bleed where a plethoric state of the system exists, or that he should not resort to mercury if the inflammation does not speedily yield; I only wish to inculcate that the destructive changes in progress in the organ will be best arrested, by inducing a healthy state of the nutritive functions. To effect this, he must begin by removing the contents of the intestines by purgatives, of which every one has his own form of prescription. If there has been no previous constipation, I find a dose of the compound colocynth pill, with two or three grains of calomel at night, followed by a purgative draught in the morning, sufficient; but if there should be reason to suspect that there has been for some time an inactive state of the alimentary canal, I keep up the purgative effect by giving three grains of the same pill, with one of calomel, three times a day, for a couple of days. The second day I commence with five grains of the pilula hydrargyri at night, followed by some bitter infusion, with alkali in the morning, and middle of the day. A mixture of infusion of quassia with about half an ounce of compound tincture of cardamoms, a drachm or two of aromatic spirit of ammonia, and half a drachm of bicarbonate of potash, appears to answer the purpose in ounce doses. Nutritive food, of easy digestion, should be given in moderate quantity, instead of the gelatinous broths and preparations of starch and sugar often given, and very appropriately called "slops." Even a small quantity of wine or other alcoholic beverage should not be denied to persons in the habit of taking them at or after dinner. All this, however, must be done according to symptoms, state of general health, and habits.

"Wounds or other injuries of the eye, whether accidental, or inflicted in operations for cataract or artificial pupil, are often followed by general inflammation of the eyeball, not very different from simple inflammation from exposure to cold, commonly called idiopathic iritis, and sometimes, as I have already observed, modified by constitutional disease or derangement of the nutritive functions. There will be the sclerotic vascularity, marginal opacity of the cornea, discoloration of the iris, contraction and adhesion of the pupil, cataract, and amaurosis, as in other forms of inflammation of the eyeball; and all this may be varied in appearance or consequences, according to the state of the system at large. It may assume the scrofulous or rheumatic character, or it may display peculiarity of nature by its rapid progress and intensity, or by its slow and disorganizing operation: in fact, it differs so little in symptoms and consequences from the other forms, that it is unnecessary to repeat what has been so often stated respecting treatment. It is sufficient to observe that bleeding, diminution of food, mercury, and so much of purgative medicine as may be necessary, are to be made available according to circumstances, and in proportion to the activity and peculiarities of the disease; while bark, iodine, iron, and other tonics and alteratives, are reserved for the subsequent stages. If the inflammation be of the simple or ordinary form, and the patient in good health, the treatment will be equally simple, and sufficiently obvious. Depletion by abstraction of blood and denial of nutritious food will, of course, be necessary, and should be carried into effect according to the amount of the injury, and the strength of the patient; but it should not be persevered in so as to interrupt or arrest the salutary processes of reparation. A single bleeding to lower the heart's action, and to diminish the activity of the capillary circulation, will, perhaps, be sufficient, followed by leeching in the vicinity of the part, if the symptoms and progress of the inflammation require it. The contents of the alimentary canal should be removed by opening medicine, but the continued administration of purgatives, as sometimes practised, cannot be necessary or beneficial. The quantity of food should be diminished, and its nutritive properties should, perhaps, be less than is required in a state of health,

but it should not be composed of materials incapable of affording blood of healthy quality, such as any of the varieties of starch or gelatinous broths. I have already so often suggested the necessity of carefully adapting the administration of mercury to the nature and intensity of the inflammation, and to the constitutional peculiarities of the patient, that it is unnecessary to return to the subject here."

[During the discussion to which the reading of this paper gave rise, Dr. Jacob made some explanations, which it is important should be introduced here.]

Dr. Jacob stated that, with respect to the position of the lens, and the mode of dealing with it when protruded, he did not think he had made himself sufficiently intelligible. What he desired to convey to the Society was this: that where an aged individual, with a hard lens, received a severe injury of the eye (say a blow or a lacerated wound), and that the lens lay in the anterior chamber, it was the duty of the surgeon to endeavour to get it out of that position, either with the needle or the extracting knife. He would even advise that the lens should not be allowed, in any case, to remain for a moment in the anterior chamber, whether hard or soft, as in younger subjects it immediately swelled up from imbibing the aqueous humour, so as to cause a terrible amount of pressure upon both the iris and cornea, rendering extraction indispensable. In other cases, however, where the protruded lens was sufficiently hard, he wished he could induce the profession to operate more frequently than they did; for he could see no difficulty in passing the needle through the cornea, and pushing back, reclining, or depressing the lens, so as to place it entirely out of the way. But what he desired to be understood most was, that if the lens was left in the anterior chamber until inflammation had set in, the bad consequences would be so great, that the total loss of the eye would probably follow. With reference to the use of depletion, he had likewise been misunderstood; for he never meant to say that where the patient was strong and plethoric, there should not be a copious extraction of blood. He merely stated, that where the patients suffered from deranged digestion, vitiated hepatic secretions, &c. &c., he thought it better to rely upon setting up a circulation of good blood in their bodies, so as to improve their general health, than to resort to the contrary practice of draining their systems of the blood already contained in it. With reference to the liability of injuries of the cornea to be followed by abscess, he wished to say that very minute injuries and ulcers of it were sometimes succeeded by abscesses of a most formidable character; but it was a mistake altogether to suppose that he had directed his observations, in the treatment of such abscesses, to small ones as well as large. His statement was, that if the anterior chamber was filled to distension with matter, and the abscess was large and pointing, that then the sooner the surgeon opened it the better: but he need hardly observe, that he never had been in the habit of puncturing the small collections called hypopion, or the patches of matter diffused or infiltrated in the structure of the cornea. With respect to the touching of the prolapsed iris with nitrate of silver, he was aware the practice was very general; but when one person proposed a plan, and advocated its utility, he did not see why another individual, who thought he knew a still better species of practice, should not make it known. With reference, therefore, to the plan he advocated for the treatment of this condition of the iris, he would content himself with observing, that his patients got on at least as well under its employment, as under the use of the nitrate of silver.—*Dub. Med. Press*, Jan. 1849.

41. *Ocular Apoplexy*.—In the *Journal de Médecine et de Chirurgie Pratiques*, for January 1849, a case is recorded as having occurred in the practice of M. MALGAIGNE, at the Hôpital St. Louis, in Paris, in which the patient (a little sweep, under treatment for fracture of the radius) was seized with dazzling and loss of sight. M. Malgaigne attributed this sudden blindness to apoplexy of the ocular nervous system, and prescribed fifteen grammes (about four drachms) of a compound tincture of jalap, and mustard pediluvia. In three days, sight was restored.

These nervous apoplexies of the eye differ from sanguineous apoplexies, in